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NORTHEASTERN RESEARCH NOTES

NORTHEASTERN FOREST EXPERIMENT STATION
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A HANDY AID
FOR HARDWOOD LOG GRADERS

In hardwood log grading, the beginner encounters a formidable task: to memorize the specifications, exceptions to general rules, etc., as set down in the U. S. Forest Products Laboratory's "Hardwood Log Grades for Standard Lumber."[1] He must refer to this text repeatedly until he becomes familiar with all the ins and outs of the job. This slows him down greatly in grading logs.

(Actually, when he becomes proficient he needs only a quick look at the grading faces of a log to assign it its proper grade. Scaling alone may often show him what grade a log belongs in.)

[1] U.S. FOREST PRODUCTS LABORATORY. HARDWOOD LOG GRADES FOR STANDARD LUMBER. PROPOSALS AND RESULTS. U.S. FOREST PROD. LAB. RPT. NO. D1737. 15 PP., ILLUS. MADISON, WIS. 1949.

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EXPERIMENT STATION

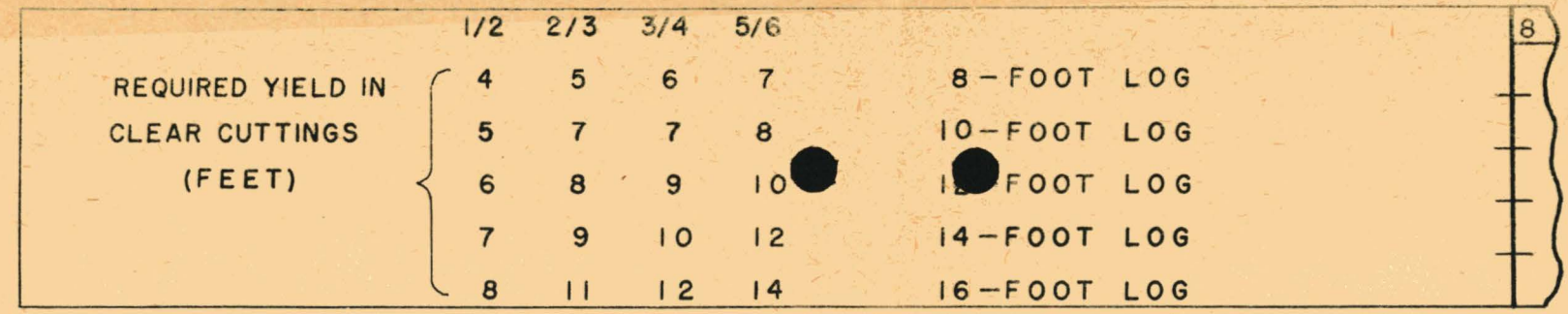
To make the work of log grading faster and easier for the beginner, the author has developed a visual outline of the log-grading system that can be put on a scaling stick in combination with any conventional log rule such as International, Doyle, and Scribner.

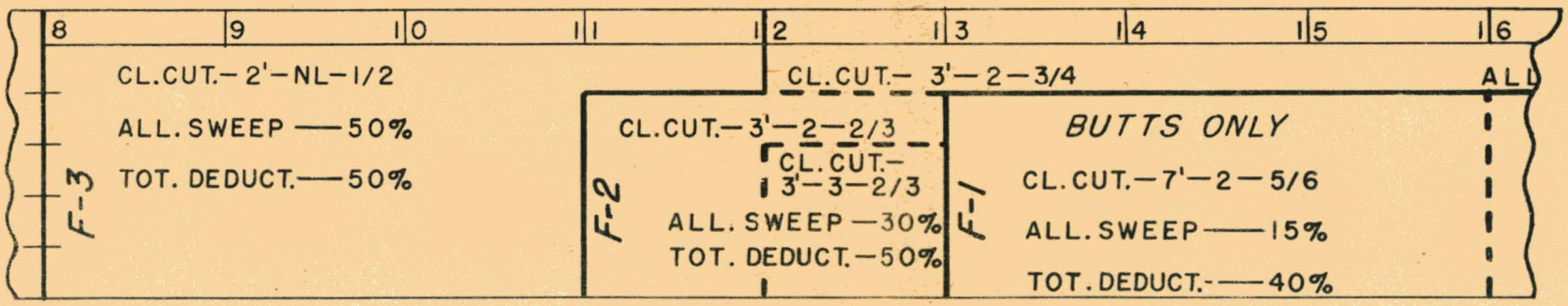
This log-grade scale is shown on the attached sheet, broken into four sections. The heavy solid lines indicate minimum diameter and length limits of the three factory grades, specifications for which are given in the Forest Products Laboratory report. The heavy dotted lines indicate variations in the specifications, based on diameters and lengths within grade.

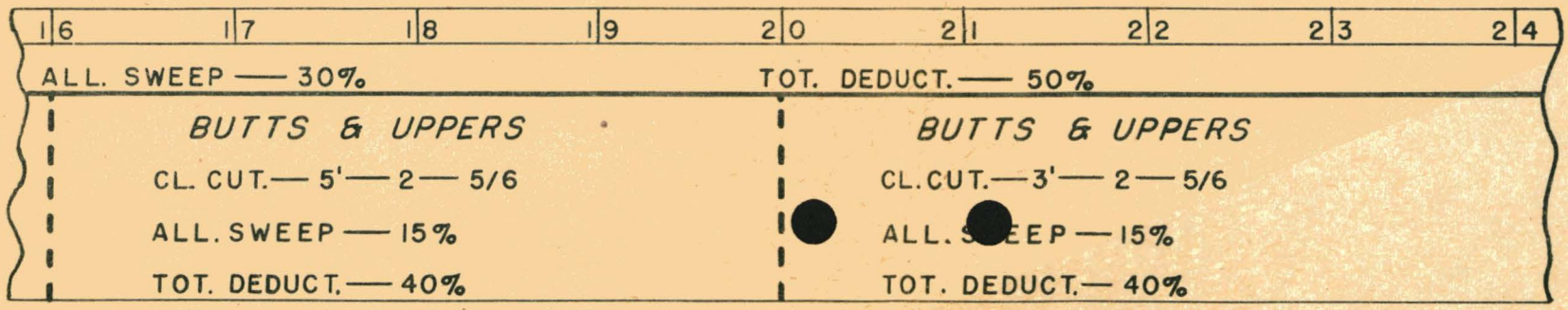
Because of limited space on the rule, many of the terms used are abbreviated. For example, CL.CUT--3'--2--3/4 means that the minimum length of clear cuttings allowed within this grade is 3 feet; that the grade allows not more than two clear cuttings per face; and that the clear cuttings must make up at least 3/4 of the face. Other abbreviations are shown on the attached drawing.

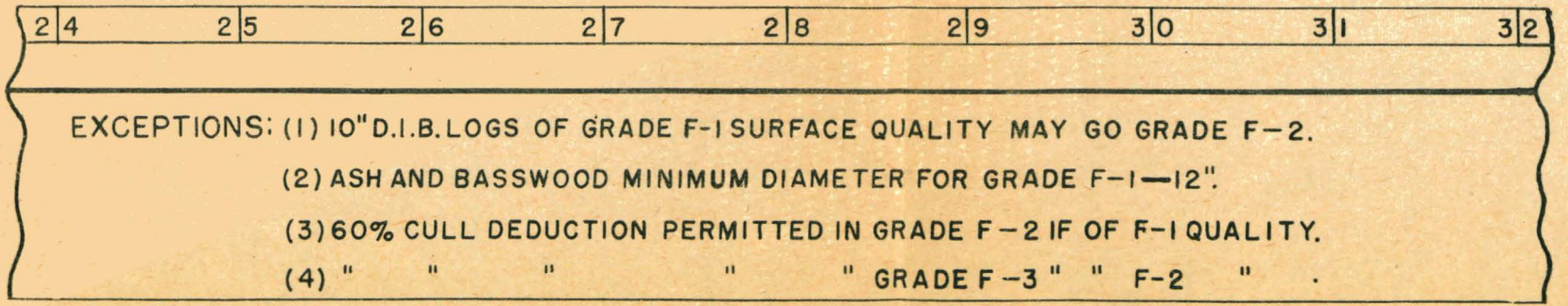
In addition, the first section of the grade rule shows the required yield (in feet of clear cuttings) for even-length logs. The last section lists some of the most common exceptions to the log-grade specifications.

To make a log grade rule, you can reproduce the sections illustrated on one side of a blank rule stick 1½ to 1-3/4 inches wide. The lines, numbers, etc., can be stamped, printed with ink, or painted on the rule. Light tinting of the different grade sections with different colors is helpful. On the other side, the log rule de-


1/2 2/3 3/4 5/6
REQUIRED YIELD IN CLEAR CUTTINGS (FEET)
4 5 6 7 8-FOOT LOG
5 7 7 8 10-FOOT LOG
6 8 9 10 12-FOOT LOG
7 9 10 12 14-FOOT LOG
8 11 12 14 16-FOOT LOG
8




16 17 18 19 20 21 22 23 24
ALL. SWEEP —— 30%
TOT. DEDUCT.—— 50%
BUTTS & UPPERS
CL. CUT.— 5'— 2— 5/6
ALL. SWEEP — 15%
TOT. DEDUCT.— 40%
BUTTS & UPPERS
CL.CUT.—3'— 2— 5/6
TOT. DEDUCT.— 40%


24 25 26 27 28 29 30 31 32
EXCEPTIONS: (1) 10" D.I.B. LOGS OF GRADE F-1 SURFACE QUALITY MAY GO GRADE F-2.
(2) ASH AND BASSWOOD MINIMUM DIAMETER FOR GRADE F-1—12".
(3) 60% CULL DEDUCTION PERMITTED IN GRADE F-2 IF OF F-1 QUALITY.
(4) " " " " " GRADE F-3 " " F-2 " .

EXPLANATION OF ABBREVIATIONS:

CL.CUT.—MINIMUM CLEAR CUTTINGS.

ALL.SWEEP—MAXIMUM SWEEP ALLOWANCE.

TOT. DEDUCT.—MAXIMUM TOTAL DEDUCTION FOR SWEEP AND SOUND DEFECT.

N.L.—NO LIMIT.

sired can be reproduced in the conventional manner. A few coats of varnish will give a protective finish.

For temporary use, you can make a log-grade rule by cutting out the sections on the attached sheet and pasting them on a rule stick. Spraying with plastic will make it last longer.

This log-grade rule will not do the entire job for the log grader. It is only an aid. Basic training in log grading is still necessary. The ability to evaluate log defects accurately comes only after proper training in the method, supplemented with observation, at the sawmill, of the lumber produced from graded logs.

This log-grade rule has been used extensively by personnel of the Northeastern Forest Experiment Station. It has proved a time-saver not only in training log graders and as an aid to beginners, but also as a memory guide for the forester who grades logs only occasionally.

--M. D. OSTRANDER